Remarks

Status of Claims:

Without prejudice, Applicants have amended the claims to more clearly set forth the subject matter the Applicants regard as the invention. Specifically, Applicants have amended claim 1 to make clear that the reflective elements are capable of being position in one or more than two positions, and that adjacent mirrors which are coupled to the same channel beam must aligned along the z axis to maintain a uniform reflection of said channel beam and avoid spectral gaps. Support for the amendment can be found on page 12, lines 7-14 of the application. Applicants have incorporated the allowable subject matter of claim 13 into independent claims 30, 31 and 32. Applicants have also amended independent claim 28 to make clear that the optical alignment of the reflective elements with the ports is performed after the array is fixed to the optical device. New claim 35 depends from claim 1 and recites that the adjacent reflective elements are in an intermediate position to couple light to the desired port. Support for this amendment can be found on page 11, lines 17-20. No new matter has been added.

Drawings:

The Examiner objected to Figures 1-12 for a number of informalities. In reply, Applicants are submitting herewith proposed formal drawings which address the above-mentioned informalities.

Claimed Objections:

The Examiner objected to Claim 34 stating that "profile and/or switching function" should be changed to "profile or switching function, or both". In reply, Applicants have amended he claim as suggested by the Examiner. Applicants submit that this objection is therefore obviated.

Allowable Subject Matter:

Applicants gratefully acknowledge the Examiner's finding of allowable subject matter in Claim 13. Applicants incorporated this subject matter into independent claims 30-32.

Therefore, Applicants submit that these claims and the claims that depend from them are in condition for allowance. Applicants did not incorporate the subject matter of claim 13 into claim 1, but rather amended claim 1 to recite qualitatively that adjacent reflective surfaces must be aligned along the z axis to maintain a uniform reflection of the channel beam and avoid spectral gaps. Applicants submit that this amendment captures the underlying concept behind claim 13 and, thus, claim 1 should be condition for allowance too.

Prior Art Rejections:

The Examiner rejected independent Claims 1, 28, 30, and 32 based essentially on the combination of Moon et al. (U.S. Patent Application No. 2002/0176151 A1) and Allan et al. (U.S. Patent No. 6,751,000). Of particular interest in these rejections is the Examiner's findings that Moon does not disclose using a plurality of reflective surfaces for a single channel but that Allan does disclose such a configuration.

In reply, Applicants wish to point out that, contrary to the Examiner's characterization, Allen does not disclose a reflective array having an abundance of reflective surfaces for reflecting one or more channels, but Moon does (*see, e.g.*, Figs. 2, 9a. 9b, 9c, 64 and related text). Nevertheless, the Examiner's finding of allowable subject matter stands as neither reference teaches or suggests maintaining a certain z delta between reflective surfaces to as recited in Claim 13. Although Moon does address z delta in Fig. 17 and associated text, an absolute distance requirement is given rather than a tolerance as set forth in claim 13.

With respect to amended claim 1, the combination of Moon and Allan fails to teach or suggest an optical device having an abundance of reflective elements in which (1) each reflective element is configurable in more than two positions, and (2) adjacent reflective elements, which are coupled to a common channel, are aligned along the z axis to maintain a uniform reflection of the channel beam and avoid spectral gaps. *To the contrary*, Moon, for example, is directed to an optical device having an array in which the reflective elements are configurable in one of two positions. In one position, the channel beam is coupled to the output port, and, in the other position, the channel beam is attenuated. There are no intermediate positions for the reflective elements. Since the reflective elements are either

tilted all the way to one side or the other, the z delta is unaffected by the position of the reflective elements. Rather, the z delta is inherently based on the design of the array and is a function of how far the reflective elements may be tilted before hitting mechanical stops that limit the travel of the reflective elements.

Since the reflective elements of the array in Moon do not have intermediate positions as is the claimed invention, Moon is not presented with the problem of maintaining their alignment along the z axis to ensure a uniform reflection of the channel beam and avoid spectral gaps. In the absence of intermediate element positions, there can be no motivation to modify Moon to maintain a certain z alignment among adjacent reflective elements in such intermediate positions. Accordingly, Applicants respectfully request that the rejection be withdrawn in light of the amendment, and that claim 1 and its dependencies be allowed.

With respect to claim 28, the combination of Moon and Allen fails to disclose a method of assembling an optical device as set forth in the claim. Claim 28 as amended clearly recites that *after the array is fixed in position relative to the optical device*, the reflective elements are adjusted to optically couple the channel beam with a desired port. This is an important feature of the claimed intention. Since the allocation of reflective elements to channels occurs after assembly, the need to precisely aligned specially tailored, channel-specific reflective elements in the optical device is eliminated. In other words, the initial alignment of the reflective elements is not critical since there are an abundance of available, generic reflective elements which provide a relatively large target for a channel beam and thus greatly relax manufacturing tolerances.

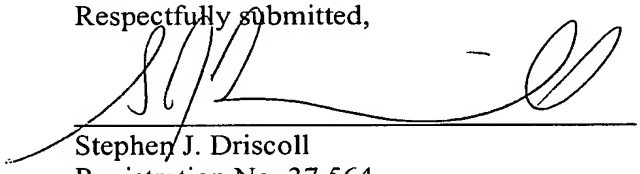
Moon discloses a fundamentally different approach. Specifically, the reflective elements disclosed in Moon are two-position devices. The reflective surfaces are either tilted *all the way* to one side or *all the way* to the other. There are no intermediate positions. Since the reflective surfaces have no intermediate positions to couple with a particular port, the entire array must be aligned such that the reflective surfaces couple with the desired port in one or their two positions. Obviously, such an alignment cannot be performed if the array is already fixed to the optical device as recited in claim 28.

Facilitating adjustment of individual reflective surfaces after the array is fixed to the optical device would require eliminating the type of array disclosed in Moon. Such a drastic modification to the Moon device would clearly constitute a departure from its principle of operation. It is well established in US patent law that there can be no motivation to modify a reference if such a modification would destroy the principal of operation disclosed in the reference. Such is the case here. There can be no motivation to modify Moon such that the optical device disclosed therein can be assembled by first fixing the array to the device and then adjusting the reflective surfaces to couple with the desired port. Accordingly, the rejection should be withdrawn and claim 28 and its dependents allowed.

In light of the above-remarks and early and favorable response is earnestly solicited.

Thank you.

Respectfully submitted,



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